

REMARKS

Claims 1-2 and 7-8 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite. In response, Applicant amended claim 1, line 3 and line 6 to change “in bobbins” to “around bobbins” as suggested by the Examiner.

The Examiner further requests clarification regarding which winding step forms the “rolled bodies” in claim 1, line 13. In response, Applicant amended claim 1 to clarify in the forming step that “forming one type of rolled body corresponding to each nominal rim diameter of a tire to form rolled bodies” occurs. The cutting step is also clarified to “cutting the unwound tubular film in accordance with tire width measurements after the step of unwinding the tubular film from one type of the rolled body so as to form a piece of the tubular film having a necessary width corresponding to a size of the green tire to form a tire component.” Accordingly, Applicant respectfully submits that it is now clarified regarding which steps forms the rolled body.

In claim 1, lines 21-22, the Examiner requests clarification regarding whether one or two cutting steps are required. In response, Applicant deleted the claim language related to the cutting step. Based on these amendments, withdrawal of the §112, second paragraph, indefiniteness rejection is respectfully requested.

Claims 1-2 and 7-8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kaido et al. (U.S. Patent No. 5,938,869, hereinafter Kaido ‘869) taken in view of at least one of Martin et al. (U.S. Patent No. 4,261,786) and Klose et al. (U.S. Patent No. 5,135,601) and at least one of Hashimura et al. (U.S. Publication No. 2002/0033557) and Kaido et al. (U.S. Patent No. 6,136,123, hereinafter Kaido ‘123) and further in view of Bridgestone (JP 2002-103471). In

response, Applicant amended independent claim 1 to clarify in the unwinding the tubular films rolled around bobbins step that the tubular films are dipped successively in an adhesive solution in a container only one time, and also in the cutting step that it occurs after the step of unwinding the tubular film from one type of the rolled body, and respectfully traverse the rejection.

On page 5, second paragraph of the outstanding Office Action, the Examiner asserts that JP '471 is directed to a dip coating of a tubular film material 12, and therefore suggests a suitable and effective manner of dip coating a tubular film is to unwind the tubular film in a dip the unwound tubular film followed by drying and winding again the film as shown in FIG. 2. However, this is different from the present invention, as now recited in the amended claims.

One difference between JP '471 and the present invention is when the tubular film is cut. Amended claim 1 now clarifies that during the winding of the respective tubular films which each have the adhesive layer on the outer surface, the two layer films are wound as a continuous tubular film. JP '471 has the unvulcanized inner liner member 28 cut and conveyed on a conveyor belt 30 during the winding of the tubular films into rolled bodies.

Claim 1 also clarifies that the cutting of the unwound tubular film in accordance with the tire width measurements occurs after the step of unwinding the tubular film from one type of the rolled bodies so as to form a piece of tubular film having a necessary width corresponding to a size of the green tire to form a tire component. Accordingly, the cutting step in the present invention occurs after the unwinding of the tubular film. JP '471 fails to disclose or suggest this feature. Accordingly, Applicant respectfully submits that an artisan would not be motivated to modify Kaido '869 using the teaching of JP '471 to achieve the features of the present invention.

Furthermore, claim 1 now clarifies that the unwinding of the tubular films rolled around the bobbins to apply an adhesive to an outer surface of the tubular films by dipping the tubular films successively in an adhesive solution in a container occurs only one time. Applicant respectfully submits that none of the cited references disclose or suggest this feature.

In FIG. 2 of JP 471, the synthetic resin tube 12 is repeatedly passed into the rubber constituent liquid 20 in a reservoir 38. To dry the rubber constituent liquid 20 and to form an unvulcanized inner liner member, the synthetic resin tube, which is repeatedly passed into the rubber constituent liquid requires that the passing time needs to be delayed, which results in the drying time being proportionally increased in the process.

In contrast, as shown in FIG. 3 of the present Application, the tubular film W is dipped in an adhesive solution 21 and the container 20 only one time. Thus, since the adhesive layer is only formed on the tubular film to be produced to an inner liner, it is not necessary to repeated dip it in the container, and therefore time of dip processing and drying processing are shorter than that of JP '471. Therefore, productivity can be enhanced in the present invention as compared to the cited prior art references.

Another problem with JP '471 is that additional work is needed because a tubular film liner 12A has to be torn off the tire. Paragraph [0016] discloses that if there is no influence in the product tire in the middle of a manufacturing process, it is not necessary to remove it. However, if the tubular film liner is not removed, then an unnecessary film is attached to the tire, and weight of the tire is increased, which is undesirable.


JP '471 relates to forming an inner liner of unvulcanized rubber by applying the rubber constituent liquid to a tubular film liner functioning as a reinforced material. JP '471 differs from the present invention, which is for providing a tubular film formed of thermoplastic elastomer as an inner liner. The rubber constituent liquid and the adhesive liquid are different from each other in properties. Thus, even if the dip processing in JP '471 is referred to, it is difficult to achieve the present invention because the adjustments and design settings that vary in the processes. For all of the above reasons, withdrawal of the §103(a) rejection of claims 1, 2, 7 and 8 is respectfully requested.

For all of the foregoing reasons, Applicant submits that this Application is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

If a Petition under 37 C.F.R. §1.136(a) for an extension of time for response is required to make the attached response timely, it is hereby petitioned under 37 C.F.R. §1.136(a) for an extension of time for response in the above-identified application for the period required to make the attached response timely. The Commissioner is hereby authorized to charge any additional fees which may be required to this Application under 37 C.F.R. §§1.16-1.17, or credit any overpayment, to Deposit Account No. 07-2069.

Respectfully submitted,
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